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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.

835

B.P. No.

Press

Mts.

Dated

24 3

195

1975

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
21th March 1875.*

Read the following papers:—

No 613. From W. S. HARRINGTON, Esq, District Engineer, Malabar, to Colonel G. W. WALKER, R.E, Chief Engineer, Public Works Department, dated Calicut, 1st March 1875, No. 221:—

I HAVE the honor to forward copy of a letter, No. 374, dated 23rd ultimo, a section and an estimate* for repairing and maintaining the Cruz Milagre Dam, * Rupees 1,000.

from the Executive Engineer in charge of the Cochin Range.

2 The expenditure is, I consider, exceedingly advisable, if not actually imperative, the water in the lagoon having decreased so slightly, and as it may be safely calculated that the impending rains of the monsoon will deepen it to a degree that will not be compensated for by any sand that may be blown into it.

From T D HARRIS, Esq, Executive Engineer in charge of Cochin and West Coast Canal Range, to W. S HARRINGTON, Esq, District Engineer, Malabar, dated Cochin, 23rd February 1875, No 374

I beg to forward, herewith, an estimate for the up-keep of the Cruz Milagre Dam, amounting to Rupees 1,000, and in conformity with your instructions I also beg to forward a plan of the sections and soundings taken in September* 1874, and a fresh set of soundings and levels taken within the last few days (from 18th to 22nd February 1875) while you have been here; you have seen the dam and coast on more than one occasion during the period, and I need not enter into very minute details, but I beg to point out to you that the coast has formed up completely, as you will see by the red lines and figures, which all indicate the last set of soundings and levels; you will observe that in no case is the beach less than 5 22 + mean sea or from 8 92 to 7 82 + low water, while the crest of the dams is only 4 75 + mean sea or 7 375 + low water; the flood level shown on sections now submitted is as high as ever come into lagoon during the heaviest part of the monsoon, and this water raced over the crest of the beach in consequence of the simple setting in of the along-shore wind on the 8th and 9th instant, as the waves roll over the crest of beach now they cannot find their way back again as heretofore, and it was only by the drainage way which I have kept open that the water has been kept down from, perhaps, toppling the crest of dam bund. at any rate the sand bank portion of the dam is still so weak and subject to settlement, it would not be safer to keep a great head of water upon it, nor would it be quite safe to keep open the present drain during the monsoon, when the high tides will come in from seaward and high floods from the river, so I propose to close this drain and to make the stone dam act as a weir, confining the water between two sand banks; there is no fear of this arrangement, it will, I am confident, succeed; the water will pass over and through the massive stones, which are massive from the foundation. The only doubt I have is of its capacity to meet the full discharge during a period of high springs racing over the crest of beach with the full force of the south-west winds; in case of danger from this point I would reduce the crest of beach in several places, just so as to balance the ingress and egress of tides. I do not approve of keeping open the present drainage here in the monsoon, as the whole of the land between the backwater and lagoon is planted thickly with coconut trees, &c, and great trouble and care is taken about the land; and, moreover, I do not consider it safe to permit the action of full tide and floods during this period lest the beach might be broken through and flood and tides combined might become uncontrollable at this critical time and place. I propose to keep 50 cubic yards of stone on each side of dam, and I have ordered the stones to be placed there in eight days, in anticipation of sanction the sand bags will also be placed in stone.

It is proposed to close up the beach from the south on groyne P, which you have seen, as a great body of water comes in from this point during the monsoon, and even during the racing over of the waves on a high tide pushed in by the wind; by connecting the groyne and beach with the sea-bank the water will be shut out from the lagoon from the south, and this will reduce the

Proceedings of the Madras Government, Public Works Department,
24th March 1875.

quantity coming into lagoon in a storm considerably. I wish to place extra four coolies as watchers on the dam, from the 15th of April to 15th July, and to repair the sea-bank and plant again with screw-pine and Indan holly the whole margin of lagoon dam and sea-bank; about one-half of the plants have grown and are thriving well, and it is most desirable to keep them up as they are already with the turfing a great protection. Trusting the information given will be found satisfactory, and that early sanction may be accorded to the estimate now submitted. It will be seen from the section that the beach has formed up and slopes perfectly uniform from the crest down to lagoon.

No 614 CHIEF ENGINEER'S MEMORANDUM.

On consideration of Mr Harris' proposals I recommend that he be permitted to act on them so far as relates to the precautionary measures for safely relieving the lagoon between the backwater and the sea of a head of water resulting from monsoon rain and from sea overwash. I see that he is fully alive to the dangerous nature of any work affording a communication between the lagoon and backwater, by his anxiety to stop up the drainage channel which he has kept open during the dry weather. He will, therefore, carefully watch over the passage he proposes to substitute, and which is required in the event of discharge through the sea beach not being caused by the natural action of the sea.

2 I would not interfere with such action, and therefore deprecate closing up the beach with sand-bags on groyne P, or repairing the sea bank, or planting its margin, as premature, and inconsistent with Mr Harris' own proposal in another place to reduce the crest of the beach, and facilitate communication for a time between the sea and the lagoon, that the former may drive in with it as much sand as possible and so obliterate the latter to the utmost.

3 In lieu of the items thus struck out I would provide double the quantity of rough stone to be available for strengthening the dam, and so make up an estimate total of Rupees 800.

12th March 1875

(Signed) G. W. WALKER, Colonel, R.E.,
Chief Engineer, P.W.D.

No. 615. ORDER THEREON, 24th March 1875, No. 835.

CIVIL WORKS, No 33.

The sum of Rupees 800, specific provision of which will be made hereafter, will be at the disposal of the District Engineer of Malabar for carrying out so much of the precautionary measures recommended by Mr Harris for maintenance of the Cruz Milagre Dam as are approved by the Chief Engineer. He will keep that officer informed from time to time of the nature of the action of the sea on the lagoon.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

To the District Engineer, Malabar.

.. Controller of Public Works Accounts.

Exd. S. T. Austin.

Spars: Copies

No 221

Malabar District Office
Calicut 1st March 1875

From

The District Engineer

Malabar

The Chief Engineer,
Public Works Department

Madras.

I have the honor to forward
copy of letter No 374 dated 23rd Feb 1875
a Section and an Estimate for
repairing and maintaining the
Cruz Milagre Dam from the
Executive Engineer in charge of
the Cochin Range.

The expenditure is I con-
sider exceedingly advisable,
if not actually imperative, the
water in the lagoon having
decreased so slightly and as it
may be safely calculated that
the impending rains of the
monsoon will deepen it to a
degree that will not be compen-
sated for by any sand that
may be blown into it.

I have the honor to be
Sir

13
Sir
Your most obedt. Servant

W. Harrington
District Engineer
Malacca

Therapeutic

Feb. 1895. N. Harris.

Range! brachas Redwood 28 1/2 ft 1895/96

Complete _____ 14. Cyl 68 12.

11

[Handwritten signature]

Proposed Drainage

2340 Riding embankment

James M. Smith

3375

5715 that got as 211 1/2 cycles

1890

177

Young Old Person

History

Eastman Kodak

1984 Total Dept or Govt Dept of

Henry Bay. 1841-1842

Handwritten signature: *W. H. C. ...*

Handwritten: Hop & bread are sold here

Mr. Adams

100 Labours for packing 25 - a hour a 25 -

Planting based on seed.

Lillian Kelly and her family

Lagoon, and Sea Bank at

2 per Ryd. 100-100 500.

Exds of the Bank, Sydney

with cash in Treasury ac — - 2. Regd 250.

Establishment

4 Extra Watchers for m.b.

April to 15th July 1976 for 3 hours in the bar & each year -

Photobooks & Repairing store

and shed

Undressed. Surprised and

Sandwiches! - 1910

Total Estimated Expenses 1000

Cashier

February 23rd 1875

Calicut

Dr. J. J. Garrison, 144 South
~~Exeter~~ Exeter, England

The Estimate provided for me
for having Stones
8200 Cft of Gravel bags filled with
Earth, Sand & put up complete
373.54

100 Cys of Rough stone to be kept
in readiness on both sides
of the Dam including labour 175.00
5000 Cft of planting several species
Indian with on both sides of
Dam Round Lagoon and
banks 50.00
2000 Gravel bags repairing
Dam with Earth and labour 250.00
4 Extra patches for 3 months
from 15th April to 15th July 75.00
Shutling & repairing
Store and Shed 50.00
Shutling and Soundings 49.10.8
Total Expenses 1000.00

Specification

This Estimate provides for making
a Sand bag Embankment on both
sides forming a draining gully
from Lagoon to Stone Basement
into the water. through which
it is intended to pass off surplus
water.

14.11.1875-24.11.75

G.O. No 553240-75

14.11.1875

14.11.1875

14.11.1875

14.11.1875

14.11.1875

14.11.1875

14.11.1875

14.11.1875

The land end of Gagne I to be closed with Sand bags also to prevent water entering the Lagoon from the South.

The ends of the present drainage to be closed both on Lagoon and Backwater sides.

100 Cyls of rough stones to be kept in readiness at the Dam 50 Cyls on either side.

Replanting Screw Pines and Indian Holly on both sides of the Dam and Bund around the Lagoon and on banks of backwater are also provided in the Estimate in places of those destroyed or damaged by this hot weather.

Repairing Bund with Earth and sand well rammed and surfed. The Estimate also provides for thatching and repairing the shore and shed with 20 Eaba thatched for 3 months.

Cochin
February 23rd 1875
District Engineer
Malabar

Cochin H.C.C. Charge Office
Feb 21st February 1875
From
The Executive Engineer
In charge, Cochin
District Engineer
Malabar

I beg to forward herewith an Estimate for the repair of the Gagne Milage Dam amounting to Rs. 1000 and in conformity with your instructions I also beg to forward a plan of the sections and soundings taken in September 1874 and a fresh set of soundings and levels taken within the last few days (from 18th to 22nd February) while you have been here; you have seen the Dam and Coast on more than one occasion during the period and I need not enter into very minute details, but I beg to point out to you that the Coast has formed up completely as you will see by the red lines and figures which all indicate the last set of soundings and levels, you will observe that in places the beach has more than 5 ft + more in the back less than 7 ft + low water while the crest of the

16.11.00 - 4.0.01

of the Dams is only 4.75 + mean sea of 7.75
+ low water; the first level shown
on sections now submitted is as high
as ever come into Lagoon during the
heaviest part of the monsoon and this
water raised over the crest of the
beach in consequence of the simple
setting in of the along shore wind
on the 8th and 9th. Instantly, as the waves
roll over the crest of beach now they
cannot find their way back again
as heretofore, and it was only in the
drainage way, which I have kept
open that the water has been kept
down from perhaps topping the
crest of Dam. land; at any rate
the raised bank portion of the Dam is
still so much more subject to attack.
In fact, it would not be safer to keep
a great head of water upon it, nor
would it be quite safe to keep open
the present drain during the monsoon
when the high tides will come in
from seaward and high floods
from the river, as I propose to close
this drain and to make the stone
Dam act as a weir confining the
water between the two banks. There
is no fear of this weir's rejection if
will I am confident succeed; the
water will pass over and through
the massive stones which have been

from the foundation. The only doubt
I have is of its capacity to meet the
full discharge during a period
of high springs racing over the crest
of beach with the full force of the
Southwest winds, in case of danger
from this point I would remove
the crest of beach in several places,
just so as to balance the increased
pressure of waves. I do not approve
of keeping open the present drainage
here in the monsoon, as the whole
of the land between the backwater
and Lagoon is planted thickly with
Coconut trees &c. and great trouble
and care is taken about the land,
and moreover I do not consider it safe
to permit the action of full tide and
floods during this period lest the
beach might be broken through and
flood and tide combined might become
uncontrollable at this critical time &
place. I propose to keep 50 cubic
yards of stone on each side of Dam,
and I have ordered the stones to be
placed there in 8 days, in anticipation
of sanction the sand bags will also
be placed in stone.
It is proposed to close up
the beach from the south in 80 yards
of which you have seen as a great
one from this

this point during the monsoons and even during the raising over of the water on a high tide pushed in by the wind by connecting the groyne and beach with the sea bank the water will be shut out from the Lagoon from the south and this will reduce the quantity coming into Lagoon in a storm considerably. I wish to place extracts copied as follows on the Dam from the 15 of April to 15 July and to re-plant the sea bank and plant again with screw pine and Indian cotton the whole margin of Lagoon Dam and sea bank about one half of the plants have grown and are thriving well and it is most desirable to keep them up as they are already with the birfing a great protection. Consulting the information given will be found reliable and that early sanction may be accorded to the Estimate now submitted. It will be seen from the section that the beach has formed up and slopes perfectly uniform from the crest down to Lagoon.

Chambers
Signed *J. W. Chambers*

kept open during the dry weather. We
all therefore carefully watch over the
passage he proposes to substitute; and
such is required in the event of dis-
charge through the sea beach not
being caused by the natural action
of the sea.

In a letter from
the Dist Engineer
Malabar to the
Chief Engineer
N.P.H. Madras
Dated 1st March 1875.
N^o 221.

P.W. 141.175
3

Copy of Mr Harris
letter submitting
estimate for
repairing the
Emililagne
Dam.
G.O.N. 835-924-3-75

12th March 1875

Chief Engineer. Memorandum

On consideration of Mr Harris's
proposal, I recommend that he be per-
mitted to act as desired for as relates
to the precautionary measures for safety
relieving the lagoon between the Backwaters
and the sea, of a head of water resulting
from monsoon rain, and from sea over-
sight that he is fully alive to the danger-
ous nature of any work affording a com-
munication between the lagoon and
Backwaters, by his anxiety to stop up
the drainage channel which he has
kept open during the dry weather. He
will therefore carefully watch over the
passage he proposes to substitute; and
which is required in the event of dis-
charge through the sea beach not
being caused by the natural action
of the sea.

I would ^{not} interfere with such
action; and therefore deprecate closing
up the beach with sand bags and
groynes P, or repairing the sea bank,
or planting its margin, as premature;
and inconsistent with Mr. Harris' own
proposal in another place to reduce
the crest of the beach, and facilitate
communication for a time between
the sea and the lagoon, that the
former may drive in with it as much
land as possible, and so obliterate
the latter to the utmost.

In view of the items thus struck
out I would provide double the quantity
of rough stone to be available for
strengthening the dam, and so
make up an estimate ^{total} of Rupees 800.

Matthew Hall R
Chief Engineer D. V. S.

Under date the

13th

Read the following:—

From the District Engineer }
Malabar } (No. 221 d/1st Mar 1875)
Memo by Chief Engineer ——— d/12th ———

The sum of Rupees 800,
specific provision of which
will be made hereafter,
will be at the disposal of
the District Engineer of
Malabar for carrying out
so much of the provision-
ary measures recommended
by Mr. Harris for mainte-
nance of the Coey Bridge
Road, as are approved by
the Chief Engineer. He will
keep that Officer informed
from time to time of the
nature of the action of the
sea on the Lagoon.

L. P. B. Chelapudi
Controller of P. & S. Deptt. 1-3-75.

In a letter from the
Dist. Engrs. Malabar
to the Chief Engrs,
D. P. H., Madras,
dated 1st March
1875, No. 221

P. P. H. 1416/75

Specification
for repairing
the Coey Bridge
Road.

G. O. No. 835-14-75

1875
GOVT. OF INDIA: MADRAS

PUBLIC WORKS.

Int. Engineer
Malabar.

Not. 8

Recd.

1875

6. 2. 1875 835

11. 613-615 -

George Milne Dine -

Mr. Dine, placed at the disposal of the Dist. Eng. of Malabar for carrying out so much of the preservation measures recommended in the Report for maintenance of the - as are approved by the Chief Eng. - The Chief Eng. is informed from time to time of the nature of the work and the progress of the same.